Aboveground Storage Tanks (AST)

Enhanced Vapor Recovery
(EVR)

Presented on 04/16/09

California Environmental Protection Agency
AIR RESOURCES BOARD

Topics

- Overview
- Regulations
- AST EVR Deadlines
- Standing Loss Control Overview
- Standing Loss Control Certification
- Phase I AST Certification
- Phase II and ISD AST Certification
- Summary

Overview
of AST Program

- Board approved new vapor recovery certification requirements to reduce emissions from AST's in 2007
  - Standing Loss Control Certification
    - New to the Certification Matrix
  - Phase I AST Certification
    - Fueling of aboveground storage tanks
  - Phase II and ISD AST Certification
    - Refueling of vehicle fuel tanks

Similar to the existing EVR requirements for USTs

Regulations
(current)

- Adopted by the Board on May 2, 2008
  - **CP-206** – *Certification Procedure for Vapor Recovery Systems at GDFs Using Aboveground Storage Tanks (references to CP 201)*
  - AST Test Procedures:
    - **TP-206.1** – *Determination of Emission Factor for Standing Loss Control*
    - **TP-206.2** – *Determination of Emission Factor for Standing Loss Control Using Processors*
    - **TP-206.3** – *Determination of Static Pressure Performance of Vapor Recovery Systems at GDF with ASTs*

AST EVR Deadlines

- Executive Order G-70-213 issued on December 31, 2009 extended all the AST EVR deadlines
  - Original effective and operative date was January 1, 2009
  - Extensions were necessary since there were no systems commercially available
  - New effective and operative dates are as follows:
    - Standing Loss Control: April 1, 2009
    - Phase I: January 1, 2010
    - Phase II and ISD: January 1, 2011
- Major modification and/or replacement of ASTs require upgrading to current EVR specifications
- Existing ASTs have four years from the new effective dates above to comply

Standing Loss Control Overview

- Standing Loss Control
  - Controls emissions during idle periods – Heating of the tanks by the sun causes the fuel to volatize and vent into the atmosphere
- Standing Loss Control is certified based on one of the following approaches:
  - *Performance* – Tests all GDF components as a system, components are certified together as a system
  - *Design* – Tests GDF components independently. Once the components are certified, they are added to a consolidated EO. Mixing and matching of components is allowed.

Standing Loss Control Overview (cont.)

- Standing Loss Control specifications and requirements
  - *Existing Installations (P/V Valve and approved paint or shade)* – Emission Factor Requirement of ≤ 2.26 lbs/1000 gallons ullage/day
  - *New Installations (P/V Valve and insulation)* – Emission Factor Requirement of ≤ 0.57 lbs/1000 gallons ullage/day
- Standing Loss Control certification requirements
  - *Minimum requirements* – 30 consecutive days during the summer months (June1 – September 30), at least seven of the 30-days shall have a peak temperature between 90 F - 105 F. Testing outside of the above dates may be approved by ARB if the temperature criteria are met

Standing Loss Certification (typical setup)

Standing Loss Control Certification

Executive Orders

- ***VR-301-A*** – Standing Loss Control Vapor Recovery System for *Existing Installations* of Aboveground Storage Tanks
  - Approved by Board on April 2, 2009
  - White Paint *(OPW is the Applicant)* for Existing ASTs
  - Existing SuperVault MH Series and Fireguard ASTs
    (Modern Custom Fabrication, Inc and Steel Tank Institute are the applicants respectively)
  - Available soon at http://www.arb.ca.gov/vapor/ast/ast.htm
- ***VR-302-A*** – Standing Loss Control Vapor Recovery System for *New Installations* of Aboveground Storage Tanks
  - Approved by Board on April 2, 2009
  - New Installations of SuperVault MH Series and Fireguard ASTs
    (Modern Custom Fabrication, Inc and Steel Tank Institute are the applicants respectively)
  - Available soon at http://www.arb.ca.gov/vapor/ast/ast.htm

Standing Loss Control Certification

Current Test Site

- ConVault ASTs
  - Location: Denair, California
    - System: Husky 5885 PV Valve installed on a 250-gallon protected ConVault AST
  - Status: 30-day operational test period completed.
  - Standing Loss Certification completed outside the summer month requirements set forth in CP-206.
  - Alternative Test Procedure was submitted by applicant and approved by ARB to allow the use of an environmentally controlled chamber to meet the ambient temperature requirements set forth in CP-206.
  - Temperature profile from this test site is similar to other Standing Loss Certifications that were conducted during the summer month

ConVault Standing Loss Control

Denair, CA

Phase I AST EVR Certification

- Differences between Phase I AST and Phase I UST
  - Emergency vents
  - Over-fill prevention valve
  - Non-rotatable vapor and product adaptors
  - Mechanical tank gauge

Phase I AST EVR Certification

Current Test Site

- OPW Phase I EVR for AST
  - Location: Firebaugh, California
    - System: OPW Phase I EVR, Husky 5885 PV Valve installed on a 550-gallon single-wall AST painted with an approved white paint listed in VR-301-A
  - Seal Date: January 9, 2009
  - Status: Within 180-day operational test period

OPW Phase I EVR: Firebaugh, CA

Phase II and ISD AST EVR Certification

- Various Phase II manufacturers have expressed interest in certifying their systems.
  - Can't Start Phase II until Phase I is completed

Questions?

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